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Office of Inspector General
Office of Audit Services

Audit Report

Management Controls over Western Area Power Administration's Central Valley Project Transmission Services

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February 2005



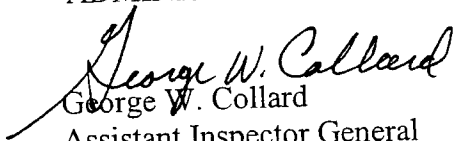
Department of Energy

Washington, DC 20585

February 14, 2005

MEMORANDUM FOR THE ADMINISTRATOR, WESTERN AREA POWER ADMINISTRATION

FROM:


George W. Collard
Assistant Inspector General
for Audit Operations
Office of Inspector General

SUBJECT:

INFORMATION: Audit Report on "Management Controls Over
Western Area Power Administration's Central Valley Project
Transmission Services"

BACKGROUND

The Western Area Power Administration's (Western) mission is to market and deliver reliable, cost-based hydroelectric power and related services to its customers. Many of these customers are located in Northern California and are in a portion of Western's service area known as the Central Valley Project. Since 1967, Federal transmission services (billing and related business services) and access (the ability to transmit power over transmission lines owned by others) for these customers have been provided under three contracts with a regional provider. By February 1997, Western was aware that the contracts would expire on December 31, 2004.

To ensure continued transmission after the expiration of these contracts, Western initiated efforts in 2002 to provide or acquire, by January 2005, similar transmission services and access. Western analyzed several options, and, in February 2004, selected a preferred alternative – a contract-based sub-control area project. Under the chosen alternative, Western planned to ensure transmission access for customers by negotiating agreements with various regional utilities and transmission agencies. Western also planned to self-provide control area services supplied under the previous contracts such as business related functions, systems integration, and communications rather than obtain the services through a regional provider. Because of the time critical nature of this effort, the audit was initiated to determine whether Western would be able to provide transmission access and related services to its Central Valley Project customers by January 2005.

RESULTS OF AUDIT

While Western was on track to provide necessary access, it was unable to furnish all planned transmission services to its customers by January 2005. We noted that:

- A majority of critical project tasks were behind schedule, including those related to power billing, systems integration, and power scheduling; and,



- Western had not developed contingency plans to ensure continued operations in the event that critical project tasks were not completed as scheduled.

Delays in meeting established milestones occurred because Western did not begin its analysis and select a preferred alternative for providing services in a timely manner. We also observed that Western did not follow project management requirements which also contributed, at least in part, to difficulties in meeting project milestones. Since Western was unable to provide all planned transmission services by January 1, 2005, it is likely to incur increased costs. Western may also encounter billing and scheduling challenges as well as the potential for disruption to transmission services after January 1, 2005. Without adequate contingency planning, Western may be unable to properly respond to such situations.

To its credit, Western has been successful in resolving many of the important and time-sensitive issues related to transmission access. Its efforts, when fully implemented, should help ensure that access will continue to be provided. However, additional emphasis and action is needed to ensure that transmission related business services are available. In that respect, we made several recommendations to improve project management and monitoring, and address contingency planning.

MANAGEMENT REACTION

The Administrator, Western Area Power Administration, concurred with the recommendations and agreed to implement corrective actions by February 15, 2005. The Administrator's comments are summarized beginning on page 5 of the report and are included verbatim in Appendix 3.

Attachment

MANAGEMENT CONTROLS OVER WESTERN AREA POWER ADMINISTRATION'S CENTRAL VALLEY PROJECT TRANSMISSION SERVICES

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Transmission Services, Access, and Contingency Planning

Status of Western's Efforts

While the Western Area Power Administration (Western) has reached a consensus with other regional utilities and transmission providers relating to transmission access at several locations, some of the key project transmission services such as power billing, systems integration, and power scheduling are behind schedule. In addition, Western had not developed contingency plans to ensure continued operations in the event that critical project tasks were not completed by January 1, 2005.

Progress in Providing Transmission Services

The majority of the contract-based sub-control area project's (Project) eight most critical tasks were behind schedule.¹ We determined that, as of November 1, 2004, seven of the eight tasks, covering functions ranging from grid operations scheduling to power billing and accounting, were from 6 to 65 percent incomplete. For example, an automated system required to integrate all of the systems was supposed to be completed by October 28, 2004, but the task was only 35 percent complete. Since completion targets for some tasks were missed, Western had to start a market simulation even though some systems were not complete as originally planned. The market simulation was designed to test the ability of the software applications and established work procedures to effectively accomplish the business processes under various test and set-up conditions. Because the incomplete systems will have to undergo further testing, the time required to complete the simulation has been lengthened.

Contingency Plans

Despite the schedule delays, Western had not developed contingency plans to mitigate accounting and billing problems in the event that critical tasks were not completed on time. According to the Federal Emergency Management Agency, it is the policy of the United States to have in place a comprehensive and effective program to ensure continuity of essential Federal functions under all circumstances. The policy identifies the Federal electric power generation and delivery program as an essential system to the Department of Energy's mission and responsibilities. To meet this requirement, the Project plans established three lower level support tasks related to contingency planning, but none had been started. Specifically, the first task, to

¹ While there are more than eight critical task for the Project, Western chose to report on these eight in its weekly tracking reports.

"Identify and prepare plan for critical contingency processes necessary," was expected to be completed in February 2004; however, it was not complete at the time of our review and no new milestone date had been established for the task. Similarly, the second and third tasks, to "Identify and develop any contingency tools deemed necessary," and to "Test each contingency process with actual data," were supposed to be completed by June and August 2004, respectively. Neither task had been started at the time of our review.

Project Management

Delays in meeting established milestones occurred because Western did not begin its analysis and select a preferred alternative for providing services in a timely manner. We also observed that Western did not follow project management requirements which contributed, at least in part, to difficulties in meeting project milestones. In addition, project officials did not take actions to develop contingency plans.

Alternatives Analysis and Selection

Western delayed the start of its analysis of its alternatives and did not select its preferred alternative in a timely manner. Our review of correspondence between Western and the current regional provider showed that Western spent considerable time and effort trying to persuade the provider to continue the contracts beyond the December 31, 2004 termination date. In April 2002, Western sent a letter stating that when the Federal Government entered into the contracts for transmission services, the expectation was that the contracts would be renegotiated to provide continued services after December 31, 2004. In its response, the provider strongly disagreed with Western's position. Western persisted until February 2003 in its attempts to persuade the provider that it must renew the contracts. Western finally accepted the provider's position and published its first Federal Register Notice of possible alternatives to stakeholders and the public in June 2003. This gave Western less than 1 year to meet the original milestone of June 1, 2004 to fully implement the selected alternative.

Finally, Western did not select the preferred alternative in time to allow for its complete implementation. Western's goal, as stated above, was to implement the preferred alternative by June 1, 2004 in order to allow for testing and adjustments before expiration of the three contracts. Originally, Western had scheduled 20 months to implement the preferred alternative. However, in addition to the time spent in disagreement with the provider, Western experienced further delays as a result of public opposition to its preferred

alternative which extended the time required to obtain regulatory and administrative approvals. Ultimately, Western did not select the preferred alternative until February 2004. This left only 3 months for implementation.

Project Monitoring

Western's Order 413.1, *Project Management*, and its *Project Management Manual* require that project managers follow basic project management principles and practices and accomplish their projects within an established timeframe. These requirements specify that managers develop and implement project plans and schedules and perform risk assessments for their projects so that risk mitigation strategies can be developed. Western considers accomplishing projects within their scheduled timeframes to be an important measurement of success.

Despite these requirements and emphasis on project management, we noted that Western did not adhere to several project management requirements and guidelines. For instance, while Western established an automated project plan, we found that this system was not kept current or accurate. Specifically, we reviewed the status of critical milestones as shown in the project plan, including significant tasks beyond the eight previously discussed, and found that the status of a number of tasks was inaccurate. While the project plan indicated that 30 significant tasks should have been initiated, none were identified as having been started. However, after we provided a list of these tasks to Western for review, we found that 22 of the tasks had been completed but the status had not been updated. According to Western personnel, the status of the tasks was updated once a month and they relied on weekly tracking reports to monitor the status of critical tasks. Yet, we found that the weekly tracking reports did not include all critical milestones; and instead focused primarily on the eight milestones that Western felt were the most critical. Consequently, it was very difficult for project officials and management to determine the status of all significant tasks between updates to the project plan.

Contingency Planning for Essential Functions

Western also had not prepared contingency plans needed to ensure continued operations in the event that critical project tasks were not completed as scheduled. Project officials told us that they did not take action because they wanted to wait until the preferred alternative was selected. This approach, however, was contrary to

Western's project management policy, which required a risk assessment for each critical task to identify those needing risk mitigation strategies at the start of the project. A Western official told us however that Western did not believe it would be practical to undertake contingency planning prior to selection of the preferred alternative. Contrary to those assertions, our review of a document from a project-planning meeting indicated that Western personnel considered development of about 80 percent of the project's systems to be independent of whatever preferred alternative was selected. The document further indicated that, in December 2003, they believed that contingency planning should be initiated as shown in the project plan. The same document also stated that Western had a hard date to meet and there was no margin for error.

Impacts on Western

The inability to provide all planned transmission services and lack of contingency plans could have two major impacts on Western and its customers: First, Western will incur increased costs, which it may have to pass on to its customers. Second, Western may experience operating challenges and, without effective contingency planning, the potential for disruption to transmission services could increase.

Since it was unable to provide fully automated transmission services by January 2005, Western will be forced to make temporary adjustments to transmission operations, such as introducing manual "workarounds" in systems not ready for full automation, and will not be able to fully implement a regional power marketing plan. Manual workarounds would be more labor intensive than full automation, and therefore more expensive. Western has estimated that it would cost about \$179,000 to develop the procedures for the manual workarounds and about \$480,000 to implement manual workarounds for the 4 months Western anticipated may be needed before full Project completion. Additionally, Western's regional power marketing plan which established customer power rates and services depends on the successful implementation of the project. Western has stated that if the Project is not fully implemented as planned, it anticipates that customers would be at substantial business risk and subject to increased costs in addition to the costs of the manual workarounds.

Also, we believe that the manual workarounds could result in more human errors than automated systems. In turn, these errors could cause business or operational challenges for Western and its customers, such as power billing or scheduling inaccuracies.

Power billing inaccuracies can affect Western's revenues and business arrangements with customers. Moreover, scheduling inaccuracies can adversely impact the implementation of reductions in customer transmission schedules. Schedule reductions are sometimes necessary to relieve congestion on transmission lines. Finally, without needed contingency plans, Western may not be adequately prepared to respond to potential disruptions to transmission services.

RECOMMENDATIONS

To ensure services are not disrupted, we recommend that the Administrator, Western Area Power Administration:

1. Direct the Project Managers to implement Western's project management policies and procedures to include:
 - a. Updating the contract-based sub-control area project plan regularly to show the current status of all tasks;
 - b. Performing risk assessments for tasks identified as critical to the completion of contract-based sub-control area project; and,
 - c. Developing and testing contingency plans for tasks that require them.
2. Direct Regional Managers to adhere to project management requirements, including timely identification, analysis, and implementation of preferred alternatives for future projects and initiatives.

MANAGEMENT REACTION

The Administrator, Western Area Power Administration, concurred with the recommendations. Specifically, for Recommendation 1, guidance will be issued by February 15, 2005, to project managers regarding following Western Project Management guidelines, including those covering monitoring, risk assessment, and contingency planning. For Recommendation 2, guidance will also be issued by February 15, 2005, to Western's executive management team regarding their oversight responsibility to ensure effective management of future projects and initiatives.

AUDITOR COMMENTS

We consider management's comments to be fully responsive to the report's recommendations.

Appendix 1

OBJECTIVE To determine whether the Western Area Power Administration (Western) would be able to provide transmission access and related services to its Central Valley Project (CVP) customers by January 2005.

SCOPE The audit was performed from May through November 2004 at Western's Corporate Services Office in Lakewood, Colorado and its Sierra Nevada Region (SNR) in Folsom, California. The audit scope included SNR's planned transmission services, transmission access, and contingency planning process for the CVP contract-based sub-control area project (Project).

METHODOLOGY To accomplish the audit objective, we:

- Reviewed Western's policies and guidance on project management; Federal Emergency Management Agency and Western guidance on contingency planning; the Sacramento Municipal Utility District contract to operate the Project; and Western's Federal Register Notices related to the Project;
- Held discussions with Western's management and interviewed the SNR Manager and project implementation personnel;
- Reviewed and evaluated the status of project tasks;
- Reviewed and evaluated documents related to the selection of the alternative for the Project and project management reports submitted in Fiscal Years 2004 and 2005; and,
- Reviewed Western's Post-2004 Power Marketing Plan for the SNR.

The audit was performed in accordance with generally accepted Government auditing standards for performance audits and included tests of internal controls and compliance with laws and regulations to the extent necessary to satisfy the audit objective. We considered the establishment of performance measures in accordance with the *Government Performance and Results Act of 1993* as they related to the audit objective. No specific performance measures were established for the Project. Because our review was limited, it would not necessarily have disclosed all internal control deficiencies that may have existed at the time of our audit. We conducted an evaluation of computer-generated

information and found it to be inaccurate. Therefore, we did not rely on computer-generated information to accomplish our audit objective. We discussed the audit results with Western officials on December 15, 2004. Western waived an exit conference.

PRIOR AUDIT REPORT

- *The Department's Continuity Planning and Emergency Preparedness* (DOE/IG-0657, August 2004). The audit disclosed that five field sites had not developed comprehensive plans to continue essential functions during an emergency and had not corrected a number of weaknesses identified during prior emergency preparedness exercises. Additionally, the Department did not specifically require sites to validate the effectiveness of corrective actions for addressing recognized emergency preparedness weaknesses or to share complex-wide lessons learned about common problems. As a result, the Department may face increased risks to its operations, employees, and surrounding communities during an emergency situation.



Department of Energy
Western Area Power Administration
P.O. Box 281213
Lakewood, CO 80228-8213

JAN 18 2005

MEMORANDUM FOR ASSISTANT INSPECTOR GENERAL FOR AUDIT OPERATIONS
OFFICE OF THE INSPECTOR GENERAL

FROM: MICHAEL S. HACSKAYLO *Michael S. Hacskaylo*
ADMINISTRATOR

SUBJECT: Comments on Draft Audit Report, "Management Controls over
Western Area Power Administration's Central Valley Project
Transmission Services"

Thank you for the opportunity to review your draft report. We are providing the following comments to the two recommendations in the draft report for your review and consideration.

Recommendation No. 1: Direct the Project Managers to implement Western's project management policies and procedures to include:

- a. Updating the contract-based sub control area project plan regularly to show the current status of all tasks;
- b. Performing risk assessments for tasks identified as critical to the completion of contract-based sub control area project; and
- c. Developing and testing contingency plans for tasks that require them.

Response: Concur. We will send out guidance by February 15, 2005, to each Project Manager reminding them of their obligations to manage their project activities in conformance with Western's published project management guidelines. Our Project Managers need to apply Western's project management policies and procedures so that projects are properly planned and executed. Project plans need to be comprehensive and include risk assessments of critical project tasks. Contingency plans need to be developed as part of the project plan to mitigate identified risks. The status of project plan execution, including the status of individual action items/tasks, need to be updated and reported regularly. Maintaining an accurate awareness of project status helps to identify when and if contingency plans need to be activated and supports the completion of those tasks on the project's critical path.

I am pleased to report that since the draft report was prepared, we successfully transitioned to our new post-2004 operating environment as a contract-based sub control area of the Sacramento Municipal Utility District. Although many of our new automated business processes and systems are operating as designed, not all of our business processes were able to be completely

automated. As a result, a number of manual processes are in place. As we gain more experience operating in our new sub control area, we anticipate that those manual processes will be replaced with automated ones. We agree that the management of this specific project could have benefited from better application of Western's project management policies and procedures. However, since this audit covered only one specific project, we do not believe its conclusions accurately reflect the management of other Western projects.

Recommendation No. 2: Direct Regional Managers to adhere to project management requirements, including timely identification, analysis, and implementation of preferred alternatives for future projects and initiatives.

Response: Concur. We will send out guidance by February 15, 2005, to each member of our executive management team reaffirming their specific oversight responsibility to ensure that the project activities under their control are managed in conformance with Western's published project management guidelines.

On this specific project, although we anticipated the expiration of existing contracts with the Pacific Gas & Electric Company (PG&E), the need to develop successor business systems to update our accounting and billing functions/practices to meet the requirements of the newly restructured California electric utility industry presented additional challenges. If we had initiated our planning efforts to develop a post-2004 operating configuration for the Central Valley Project earlier, we may have faced a less constrained implementation schedule. However, opposition to our preferred post-2004 operating configuration extended the public process and, therefore, implementation of a preferred alternative. In hindsight, it appears that we were somewhat optimistic as to the time it would take to obtain the appropriate regulatory and administrative approvals for our operating configuration for post-2004 operations, which we will use as a lessons learned on future projects.

The draft report does not address the energy crisis of 2000-2001 or the ongoing changes in California's electric utility industry. These events created a great deal of uncertainty for long-range planning efforts and affected how Western and our customers viewed our preferred post-2004 operating environment. Our Federal Register Notices associated with the decision-making process provide a good context for these events and our post-2004 decision.

We have also attached suggested changes to the draft report in redline strikeout for your review and consideration.

Attachment

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